## **ABSTRACT**

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The present invention relates to an environmentally friendly process for the selective oxidation of carbohydrates. The process comprises the addition of a hydroperoxide, including hydrogen peroxide, to a carbohydrate having primary alcohol groups, particularly including polysaccharides, wherein said carbohydrate is contact with a nitroxyl radical mediator and the process is catalyzed by a peroxidase enzyme in the presence of halide ions.